

## **Section II. Amendments to the Claims**

Please cancel claims 9, 12, 14-20, 25, and 34-39, and amend claims 1, 10, 13, 21-24, and 26-33 as set out below in the following listing of claims 1-39 of the application:

1. (Currently Amended) ~~Method~~ A method for the selective assembly of proteins into a structure, comprising:
  - a first step of the inclusion of a first partial protein sequence –GYG- into a further protein sequence, the further sequence forming a loop structure in the native state,
  - a second step of the addition of metal ions to thereby form the selective assembly.
2. (Original) The method according to claim 1, wherein the metal ions are alkali metal ions.
3. (Original) The method according to claim 1, wherein the metal ions are selected from the group of metal ions consisting of lithium, sodium and potassium ions.
4. (Original) The method according to claim 1, wherein the metal ions are alkaline earth metal ions.
5. (Original) The method according to claim 1, wherein the metal ions are selected from the group of metal ions consisting of magnesium and calcium ions.
6. (Original) The method according to claim 1, wherein the metal ions are transition metal ions.
7. (Original) The method according to claim 1, wherein the metal ions are selected from the group of transition metal ions consisting of copper, zinc and iron ions.
8. (Original) The method of claim 1, wherein the first partial protein sequence –GYG- is in an all-gauche conformation.
9. (Cancelled)

10. (Currently amended) The method according to ~~any one of the above claims, wherein the first protein partial sequence is a member of a second partial protein sequence –GGYGG–~~ claim 1, wherein a second partial protein sequence –GGYGG– includes the first partial protein sequence.

11. (Original) The method according to claim 10 in which one of the glycine molecules in the second partial protein sequence is substituted with another amino acid.

12. (Cancelled)

13. (Currently amended) The method according to ~~any one of the above claims~~ claim 1, wherein the first partial protein sequence is part of a protein selected from the group of proteins consisting of fibroin, spidroin and fibronectin.

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Cancelled)

19. (Cancelled)

20. (Cancelled)

21. (Currently amended) ~~A combination of a protein solution of a protein~~ An apparatus for forming a selective assembly from a protein solution, the protein solution having at least a –GYG- partial protein sequence and an the apparatus for forming a selective assembly from the protein solution, the apparatus including at least one passage ~~(17)~~ through which the protein solution is passed; at least one compartment ~~(9, 14)~~ storing an ion solution having metal ions;

and a contact area (12) in which the protein solution and the ion solution are brought into contact to thus form the selective assembly.

22. (Currently amended) The ~~combination~~ apparatus of claim 21, wherein the at least one passage (17) is separated from the at least one compartment (9, 14) by a wall made of semipermeable or porous material.

23. (Currently amended) The ~~combination~~ apparatus of claim 22, further having at least two compartments (9, 14) isolated from each other, a first one of said at least two compartments (9) surrounding a first portion (8) of the wall and defining an inlet portion of at least one passage (17) and a second one of said at least two compartments (14) surrounding a second portion (12) of said wall defining an outlet portion of the at least one passage (17).

24. (Currently amended) The ~~combination~~ apparatus of ~~any one of claims 21 to 23~~ claim 23, wherein each of the ones of said at least two compartments (9, 14) has a supply and removal ~~means (10, 11; 15, 16)~~ device for supplying an ion solution to, and removing an ion solution from, ~~the compartment at least one of said compartments.~~

25. (Cancelled)

26. (Currently amended) The ~~combination~~ apparatus of ~~any one of claims 21 to 24~~ claim 21, wherein ~~the~~ a cross-sectional area of said inlet portion of the at least one passage (17) decreases towards the outlet portion.

27. (Currently amended) The ~~combination~~ apparatus of claim 26, wherein ~~the~~ a diameter of the inlet portion of the at least one passage decreases substantially towards the outlet portion.

28. (Currently amended) The ~~combination~~ apparatus of ~~any one of claims 21 to 27~~ claim 22, wherein ~~the~~ inner surfaces of said walls of the at least one ~~tubular~~ passage (17) are coated with a friction reducing material.

29. (Currently amended) The ~~combination apparatus~~ of ~~any one of claims 21 to 28~~ claim 21, wherein a concentrically arranged feed ~~means are~~ device is positioned at the inlet ~~end~~ portion of the at least one ~~tubular~~ passage (17) to supply said protein solution to the passage (17).

30. (Currently amended) The ~~combination apparatus~~ of ~~any one of claims 22 to 29~~ claim 22, wherein said semipermeable ~~and/or~~ porous material comprises cellulose acetate-based material, or substituted diethylaminoethyl, carboxyl, or carboxymethyl groups.

31. (Currently amended) The ~~combination apparatus~~ of ~~any one of claims 22 to 29~~ claim 29, wherein said semipermeable material ~~and/or~~ porous material comprise hollow-fibre membranes of polysulfones, polyethyleneoxide-polysulfone blends, silicone or polyacrylonitrile.

32. (Currently amended) The ~~combination apparatus~~ of ~~any one of claims 21 to 31~~ claim 21, further including supply means (2, 3) for supplying the protein solution to the at least one passage (17) and removal means (5) for removing the ~~formed~~ material having the selective assembly from the contact area.

33. (Currently amended) The ~~combination apparatus~~ of ~~any one of claims 21 to 32~~ claim 21, wherein the metal ions are alkali metal ions, alkaline earth metal ions or transition metal ions.

34. (Cancelled)

35. (Cancelled)

36. (Cancelled)

37. (Cancelled)

38. (Cancelled)

39. (Cancelled)